

## Washington's 2009 Recycling Produces Results

Recycling in Washington continues to result in important environmental and economic gains. Recycling is more than a way to manage wastes. It is an important way to reduce the harmful environmental effects of industrial activities - and a thriving recycling system creates jobs.

### Recycling saves energy and reduces greenhouse gas emissions

Using recycled material to make paper, plastics, glass, and metal products saves energy. Collecting, processing, and transporting recycled materials typically uses less energy than extracting, refining, transporting, and processing raw materials.

Using recycled material to manufacture new products takes less energy than manufacturing products from new materials. This results in reduced greenhouse gas (GHG) emissions. The 7.4 million tons of material collected for recycling in Washington in 2009:

- Saved energy equivalent to about 1 billion gallons of gasoline. This is equivalent to conserving over 132 trillion British thermal units (BTUs) of energy, or about a third of all energy used by Washington businesses annually.<sup>1</sup>
- Prevented 2.7 million tons of GHG emissions – about 835 pounds per person. This is similar to keeping 1.8 million cars off the road each year – almost half of the passenger cars in Washington.<sup>2</sup>

### Recycling conserves natural resources and creates green jobs

Recycling reduces harmful environmental effects of mining and logging. Supplying industry with recycled materials, instead of virgin resources from forests and mines, conserves these scarce resources. Using recycled materials rather than virgin resources also diverts jobs into the green economy. Washington defines green jobs as those in the primary industries of a green economy that promote environmental protection and energy independence.

- In 2009, Washington recycling programs supplied industry with 7.4 million tons of recycled commodities such as metals, plastics, paper, glass, wood, and construction and demolition scrap.
- Recycling over 1.2 million tons of scrap metal in 2009, Washington avoided mining and processing over two million tons of limestone, iron ore, and coal.<sup>3</sup>
- In 2008, Washington State firms employed an estimated 4,456 people in green jobs, involving collection, hauling, transport, processing, or remanufacture of recyclable materials.<sup>4</sup> 2009 showed an increase in estimated green jobs despite the economic recession.<sup>5</sup>

<sup>1</sup> Environmental Protection Agency (EPA) Waste Reduction Model (WaRM): [http://epa.gov/climatechange/wywd/waste/calculators/WaRM\\_home.html](http://epa.gov/climatechange/wywd/waste/calculators/WaRM_home.html). Energy use information from Energy Information Administration: [http://www.eia.doe.gov/emeu/states/seds\\_updates.html](http://www.eia.doe.gov/emeu/states/seds_updates.html).

<sup>2</sup> GHG emissions measured in metric tons carbon equivalent (MTCE); EPA WaRM; Washington Department of Licensing; EPA Emission Facts.

<sup>3</sup> Northeast Recycling Council (NERC) Environmental Benefits Calculator: [http://www.nerc.org/documents/environmental\\_benefits\\_calculator.html](http://www.nerc.org/documents/environmental_benefits_calculator.html); Steel Recycling Institute.

## Recycling lessens emissions of air and water pollutants

Recycling keeps materials out of landfills where they can contaminate groundwater systems and generate greenhouse gases, reduces the amount of pollution entering the air and water, and keeps materials out of incinerators that can pollute the air and create ash residue. Twenty-seven different types of air and water pollutants are reduced when we use recycled instead of virgin resources to manufacture products.<sup>6</sup>

### Energy & Greenhouse Gas Savings by Recycling in Washington (2009)<sup>7</sup>

Recycled Material	Tons Recycled <sup>8</sup>	BTUs Saved (millions)	GHGs Avoided (MTCE)
Aluminum Cans	21,098	4,367,036	78,569
Steel Cans	17,293	355,062	8,674
Glass	100,823	271,351	8,812
Plastics <sup>9</sup>	58,797	3,160,926	25,047
Corrugated Cardboard	491,266	7,671,692	344,340
Mixed Paper <sup>10</sup>	595,298	10,934,061	391,176
Wood <sup>11</sup>	804,947	5,325,911	14,778
Yard Trimmings	676,722	144,042	-8,671
Food Scraps	184,071	-3,323	32,978
Other Organics	188,475	-3,402	15,729
Mixed Metals	1,181,429	91,512,295	1,754,936
Landclearing Debris	240,957	239,503	-52,128
Carpet	3,317	321,275	6,565
Computers/Electronics	22,190	688,889	13,956
Construction & Demolition Debris <sup>12</sup>	2,236,307	4,072,598	75,346
Tires	62,001	3,246,798	4,697
<b>Subtotal</b>	<b>6,884,991</b>	<b>132,304,714</b>	<b>2,714,804</b>
<b>Other Recycling</b>	<b>489,557</b>	<b>Data not available for all material categories</b>	
<b>Total</b>	<b>7,374,548</b>		

## More information

Beyond Waste program:

<http://www.ecy.wa.gov/beyondwaste/>.

## Contact

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### Special accommodations:

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<sup>4</sup> Government jobs excluded. 2008 Washington State Green Economy Jobs, Washington State Employment Security Department.

<sup>5</sup> 2009 Washington State Green Economy Jobs, Washington State Employment Security Department.

<sup>6</sup> NERC Environmental Benefits Calculator.

<sup>7</sup> Washington Department of Ecology's 2009 Recycling Survey: <http://www.ecy.wa.gov/programs/swfa/solidwastedata/>. Savings are relative to energy required and GHGs emitted during production of products using virgin materials; EPA WaRM.

<sup>8</sup> For this analysis, recycling includes composting and burning for energy.

<sup>9</sup> Includes HDPE, LDPE, PET, and mixed plastics (EPA WaRM).

<sup>10</sup> Includes mixed paper, newspaper, and high-grade paper (EPA WaRM).

<sup>11</sup> Includes reused and recycled dimensional lumber, recycled wood and wood burned for energy recovery (EPA WaRM).

<sup>12</sup> Includes fly ash, concrete/asphalt, asphalt shingles, and gypsum/drywall (EPA WaRM).